

**REMARKS**

Claims 1-18 are pending in this application. By this Amendment, claims 1, 4 and 5 are amended and claims 13-18 are added. No new matter is added. Support for the amendment to claim 1 can be found at, for example, page 1, lines 11-13 and page 5, line 26 to page 6, line 11. Support for the amendment to claim 4 can be found at, for example, page 6, lines 10-11 and page 8, lines 4-10. Support for the amendment to claim 5 and newly added claims 15, 17 and 18 can be found at, for example, page 9, lines 3-15. Support for newly added claim 13 can be found at, for example, page 7, line 37 to page 8, line 3. Support for newly added claim 14 can be found at, for example, Figure 4. Support for newly added claim 16 can be found at, for example, page 5, line 26 to page 7, line 21. Reconsideration and prompt allowance of the application based on the above amendments and the following remarks is respectfully requested.

**I. Rejection under §103(a)**

The Office Action rejects claims 1-12 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,832,053 to Leuthold. The rejection is respectfully traversed.

Leuthold fails to teach or suggest "a converter for converting an OTDM type signal into a WDM type optical signal," as recited in claim. Specifically, the Examiner asserts that Leuthold discloses a converter for converting an OTDM type optical signal into a WDM type optical signal (Fig. 6b). However, Leuthold merely discloses WDM communications wherein a signal is converted from one wavelength to another or a signal is regenerated at the same wavelength (col. 1, lines 22-27, 51-54 and 59-63). Nowhere does Leuthold disclose the conversion of an OTDM type signal into a WDM type optical signal. Thus, Leuthold fails to teach or suggest "a converter for converting an OTDM type signal into a WDM type optical signal," as recited in claim 1.

Leuthold also fails to teach or suggest "a plurality of devices connected in parallel for temporarily subsampling the OTDM type optical signal at a predetermined subsampling frequency," as recited in independent claim 1. Specifically, the Examiner asserts that Leuthold discloses a plurality of devices connected in parallel for temporarily subsampling the OTDM type optical signal at a predetermined subsampling frequency (Fig. 6b). However, Figure 6b fails to disclose a plurality of devices connected in parallel. Figure 6b merely discloses a single modulation section (620). Also, even if one were to argue that the device of Leuthold can be multiplied to include a plurality of devices, there is no motivation in Leuthold for applying the same input signal to the multiple wavelength converter devices. Thus, Leuthold fails to teach or suggest "a plurality of devices connected in parallel for temporarily subsampling the OTDM type optical signal at a predetermined subsampling frequency," as recited in independent claim 1.

Leuthold also fails to teach or suggest "a plurality of wavelength converter devices in parallel, each converter device being adapted to receive at its input the continuous wave signal and one of the wavelength-division multiplexed optical signals and to apply its output to the connection interface," as recited in independent claim 1 and similarly recited in newly added claim 16. Specifically, the Examiner concedes that Leuthold fails to disclose a plurality of wavelength converter devices. However, the Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the system to include a plurality of wavelength converter devices in parallel since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. However, Leuthold merely refers to WDM to WDM conversion (col. 1, lines 22-27, 51-54 and 59-63) and as such, does not suggest to apply a plurality of optical signals from a corresponding plurality of converters to a common interface. Thus, Leuthold fails to teach or suggest "a plurality of wavelength converter devices in parallel, each

converter device being adapted to receive at its input the continuous wave signal and one of the wavelength-division multiplexed optical signals and to apply its output to the connection interface," as recited in independent claim 1 and similarly recited in newly added claim 16.

Leuthold also fails to teach or suggest "a plurality of time shifter devices each associated with a specific converter device such that optical signals applied by the corresponding converter devices are time shifted relative to each other," as recited in dependent claim 5. Specifically, the Examiner asserts that Leuthold discloses a phase shifter (636) (asserted to be equivalent to the recited plurality of time shifter devices) for time shifting wavelength-division multiplexed optical signals relative to each other. However the phase shifter (636) of Leuthold is not equivalent to the recited "plurality of time shifter devices" because the phase shifter (636) of Leuthold merely produces interferences between two arms of the delay interference section (630) (col. 7, lines 2-15 and col. 6, lines 7-11). Additionally, Leuthold merely discloses one phase shifter (636), not a plurality of phase shifter. Thus, Leuthold cannot disclose optical signals for different converters which are time shifted relative to each other. Thus, Leuthold fails to teach or suggest "a plurality of time shifter devices each associated with a specific converter device such that optical signals applied by the corresponding converter devices are time shifted relative to each other," as recited in dependent claim 5.

Applicants do not concede that Leuthold, alone or in combination, teach or suggest the features recited in dependent claims 2, 3, 6-12. However, it is unnecessary to separately discuss the features recited in the dependent claims given the existence of clear and distinguishing features in independent claims 1 and 4.

Accordingly, Applicants respectfully request withdrawal of the rejection.

## **II. Newly Added Claims**

With respect to newly added independent claim 16, Leuthold fails to teach or suggest "a plurality of wavelength converter devices in parallel, each converter device being adapted to receive at its input the continuous wave signal and one of the wavelength-division multiplexed optical signals and to apply its output to the connection interface." Thus, Applicants respectfully submit that, at least for the reasons discussed above, as well as the additional features recited therein, claim 16 is distinguishable over the Leuthold.

With respect to newly added dependent claim 13, Applicants do not concede that Leuthold, alone or in combination, teaches or suggests the features of this dependent claim. Specifically, Leuthold fails to teach or suggest "a pulse generator of the plurality of generators is offset relative to another generator of the plurality of generators by an amount of time corresponding to a frequency of the OTDM type optical signal," as recited in dependent claim 13. Leuthold discloses a single modulation section (620) (asserted to be equivalent to the recited converter device). As such, Leuthold fails to disclose any relationship between multiple conversion devices and, specifically, between different generators (col. 7, lines 4-15). Thus, Applicants respectfully submit that, at least for this reason, claim 13 is distinguishable over the Leuthold.

With regard to newly added claims 14, 15, 17 and 18, Applicants do not concede that Leuthold, alone or in combination, teach or suggest the features recited in these claims. However, it is unnecessary to separately discuss the features recited in the newly added dependent claims given the existence of clear and distinguishing features in independent claims 4 and 16.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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WPB:MQW/hs

Attachment:  
Petition for Extension of Time

Date: November 9, 2009

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